# Abstracts

## An efficient characterization of interconnected multiconductor-transmisslon-line networks

*A. Orlandi and C.R. Paul. "An efficient characterization of interconnected multiconductor-transmisslon-line networks." 2000 Transactions on Microwave Theory and Techniques 48.3 (Mar. 2000 [T-MTT]): 466-470.*

The numerical solution of the multiconductor-transmission-line (MTL) equations for lossy interconnected transmission lines (TLs) is investigated in this paper. The solution for the transmission line segments is accomplished through the finite-difference time-domain method, whereas the terminations and interconnection networks (which may contain nonlinearities) are characterized with an efficient state-variable representation. High-frequency skin-effect losses in the TLs are included in the MTL equations through convolution integrals in the MTL equations. The computation of these convolution integrals represents the bulk of the solution effort. Two methods, the singular-value-decomposition method and the matrix-pencil method, are shown to significantly reduce the computation time and improve the solution accuracy.

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